



UNITED STATES PATENT AND TRADEMARK OFFICE

A  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.           | CONFIRMATION NO. |
|---|-------------|----------------------|-------------------------------|------------------|
| 10/679,979  | 10/07/2003  | Michel J. Vermoesen  | DP-309740/741/742<br>7500/24  | 4767             |
| 22851   | 7590        | 03/09/2005           | EXAMINER<br>LESLIE, MICHAEL S |                  |
| DELPHI TECHNOLOGIES, INC.<br>M/C 480-410-202<br>PO BOX 5052<br>TROY, MI 48007 |             |                      | ART UNIT<br>3745              | PAPER NUMBER     |

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                            |                  |
|------------------------------|----------------------------|------------------|
| <b>Office Action Summary</b> | Application No.            | Applicant(s)     |
|                              | 10/679,979                 | VERMOESEN ET AL. |
|                              | Examiner<br>Michael Leslie | Art Unit<br>3745 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-3,5-8,12-14,19 and 20 is/are rejected.
- 7) Claim(s) 4,9-11 and 16-18 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 07 October 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____.  | 6) <input type="checkbox"/> Other: _____.                                   |

## DETAILED ACTION

### *Claim Objections*

Claims 16-18 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 12-14, 19, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Stelzer.

Stelzer discloses a vacuum booster having a booster housing (3, 4) defining a closed booster cavity, a longitudinal axis of the booster, and a generally annular wall having a radially inward facing sealing surface, and a booster power piston apparatus, including a power piston (5) operatively mounted within the booster housing for movement along the longitudinal axis of the booster, having a sliding seal (not numbered, Fig. 1) fixedly attached thereto and slidingly engaging the sealing surface of the annular wall for axially dividing the closed booster cavity into a high pressure cavity (24) and a low pressure cavity (16). The booster further includes an imperforate, generally annular, seal support flange extending radially outward from the power

piston and defining an outer periphery thereof adapted for attachment of the sliding seal, wherein the sliding seal is a lip seal.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stelzer in view of Tsubouchi et al.

Stelzer teaches a vacuum brake booster as described above with respect to claim 2 above, but does not teach a tandem type construction. Tsubouchi et al teaches both a single and tandem type construction for a vacuum brake booster. Inspired by the teaching of Tsubouchi et al, for modification between a single and tandem type vacuum booster (Figs. 1 & 6), it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the booster of Stelzer to include a divider (3, Tsubouchi et al) having an imperforate wall thereof fixedly attached and sealed to the booster housing and including a seal for sliding passage therethrough of the power piston, the divider dividing the closed cavity into a primary chamber (6, Tsubouchi et al) and a secondary chamber (8, Tsubouchi et al), with the seal support flange dividing one of the primary or secondary chambers into a high pressure and a low pressure cavity thereof, a second seal support flange operatively attached to the power piston and dividing the other of the primary and secondary chambers into a high pressure and a low pressure cavity

thereof, and a second seal fixedly attached to the second seal support flange for sliding contact with the sealing surface of the booster housing, wherein the second seal is a lip seal, and the second seal support flange including a generally annular shaped wall thereof having an outer surface in sliding sealing engagement with the divider, a first end thereof attached to the power piston in the primary chamber, and an imperforate radially extending flange thereof attached to the opposite end of the annular shaped wall of the second seal support flange and extending radially outward to a distal peripheral edge thereof adapted for attachment of the second seal as taught by Tsubouchi et al for the purpose of multiplying boost force.

***Allowable Subject Matter***

Claims 4, 9-11, and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patents 2807239, 3162018, and 5493949 teach vacuum brake boosters having a power piston apparatus and a sliding seal supported on a flange of the power piston.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Leslie whose telephone number is (571) 272-4819. The examiner can normally be reached on M-F 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ML  
March 3, 2005

  
**Michael Leslie**  
Patent Examiner  
AU 3745

  
**EDWARD K. LOOK**  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700

3/5/05